

CLAIM AMENDMENTS

1. (Currently Amended) A combustion system (10) ~~for a gas turbine comprising:~~ equipped with

a premixing chamber (12) for air which is mixed with the fuel injected from a series of holes (11) creating a main central flame which is formed in a flame tube (14), said premixing chamber (12) is convergent towards a connection end with a combustion chamber comprising the flame tube (14) ~~[[,]] and characterized in that said combustion system (10) comprises~~

a series of pilot devices (20) ~~with configured to premixing of premix~~ the fuel gas, which and
create a series of corresponding pilot flames suitable for stabilizing the main central flame itself, at the same time reducing the polluting emissions, each of the series of pilot devices includes a sub-pilot device configured to inject pilot fuel gas into the respective pilot device and produce diffusion flames for stabilizing the pilot flame.

2. (Currently Amended) The combustion system (10) with low polluting emissions according to claim 1, ~~characterized in that~~ wherein said flame tube (14) comprises a tapered connection end (15) to the air premixing chamber (12) and in that said tapered end (15) comprises a series of holes (18) each housing a respective pilot device of the series of fuel gas premixing pilot devices (20).

3. (Currently Amended) The combustion system (10) with low polluting emissions according to claim 1, ~~characterized in that~~ wherein the holes of the series of holes (18) are positioned at an equal distance along a circumference of the tapered end (15) of the flame tube (14) coaxial with its axis.

4. (Currently Amended) The combustion system (10)-with low polluting emissions according to claim 1, ~~characterized in that~~ wherein it comprises a series of thermocouples (19)-outside the central body-(17).
5. (Currently Amended) The combustion system (10)-with low polluting emissions according to claim 1, ~~characterized in that~~ wherein it comprises a feeding duct (70)-of the fuel, which surrounds said central body-(17).
6. (Currently Amended) The combustion system (10)-with low polluting emissions according to claim 1, ~~characterized in that~~ wherein each pilot device of said series of pilot devices (20)-with premixing of the fuel gas comprises a premixing duct-(29), a series of holes (28)-for the fuel gas inside the premixing duct (29)-and a unit (24)-comprising at least one shaped element so as to create turbulence in the air flow in order to obtain a homogenous mixture of air/fuel gas inside the premixing chamber (29)-itself.
7. (Currently Amended) The combustion system (10)-according to claim 6, ~~characterized in that~~ wherein said at least one shaped element comprises a series of shaped blades-(27).
8. (Currently Amended) The combustion system (10)-according to claim 6, ~~characterized in that~~ wherein said at least one shaped element comprises two series of shaped blades-(25).
9. (Currently Amended) The combustion system (10)-according to claim 7, ~~characterized in that~~ wherein each pilot device of the series of fuel gas premixing pilot devices (20)-comprises a duct (43)-for the fuel gas, situated in a central element (42)-inside the premixing chamber (29)-for stabilizing the flame of the pilot device itself, said duct (43)-is inside and coaxial to an annular duct (34)-for the fuel gas in turn connected to the series of holes-(28).

10. (Currently Amended) The combustion system ~~(10)~~ according to claim 9, ~~characterized in that wherein~~ each pilot device of the series of fuel gas premixing pilot devices ~~(20)~~ comprises two ducts ~~(32)~~ inside the premixing duct ~~(29)~~ for detecting the flow-rate of the fluid inside the pilot device itself and at least one thermocouple ~~(33)~~.

11. (Currently Amended) The combustion system ~~(10)~~ according to claim 7, ~~characterized in that wherein~~ each pilot device of the series of fuel gas premixing pilot devices ~~(20)~~ comprises a mini-burner ~~(45)~~ inside the premixing duct ~~(29)~~ for stabilizing the flame of the pilot device itself.

12. (Currently Amended) The combustion system ~~(10)~~ according to claim 10, ~~characterized in that wherein~~ the mini-burner ~~(45)~~ comprises a series of holes ~~(35)~~ for the air and characterized in that the mini-burner ~~(45)~~ is connected to a duct ~~(43)~~, for the fuel gas, inside and coaxial to an annular duct ~~(34)~~ for the fuel gas, in turn connected to the series of holes ~~(28)~~.

13. (Currently Amended) The combustion system ~~(10)~~ according to claim 8, ~~characterized in that wherein~~ each pilot device of the series of fuel gas premixing pilot devices ~~(20)~~ comprises a series of holes ~~(30)~~ outside the premixing chamber ~~(29)~~ for stabilizing the flame of the pilot device itself.

14. (Currently Amended) The combustion system ~~(10)~~ according to claim 13, ~~characterized in that wherein~~ each pilot device of the series of fuel gas premixing pilot devices ~~(20)~~ comprises a duct ~~(37)~~ connected to the series of external holes ~~(30)~~ and a duct ~~(36)~~ connected to the series of holes ~~(28)~~.

15. (Currently Amended) The combustion system ~~(10)~~ according to claim 8, ~~characterized in that~~ wherein each pilot device of the series of fuel gas premixing pilot devices ~~(20)~~ comprises at least one thermocouple ~~(33)~~ and two ducts ~~(32)~~ inside the premixing duct ~~(29)~~.

16. (Cancelled)

17. (Cancelled)

18. (Currently Amended) The combustion system ~~(10)~~ according to claim 11, ~~characterized wherein in that~~ each pilot device of the series of fuel gas premixing pilot devices ~~(20)~~ comprises at least one thermocouple ~~(33)~~ and two ducts ~~(32)~~ inside the premixing duct ~~(29)~~.